2:Scott G-5 (1870's-1909)1910 AP1 Burma
Burmese AP4

to accumulate money, and their carelessness results in the constant death of their plough-beasts, so that matters usually remain exactly at the same level if the farmer does not actually get into permanent debt. The Scottish Highlanders have a pious wish, "May the free hand always be full!" If it is not always full in Burma it is consoling to think that it is seldom absolutely empty. Still, when the grandson succeeds he ordinarily finds that there is as little actual money hoarded up about the place as there was when the grandfather Po Gyi spent so many borrowed rupees at his uncle's funeral.

If rice cultivation is easy work in the low country, it is very different with the taung-ya, or hill clearings. Here the dense underwood and forest growth has to be cut down; and the more there is to cut the better the crop, for the soil needs fertilising badly, and all that is cut down is burned. Work is begun about January; everything is felled, bushes and all; and after the fallen logs have dried some time in the sun, the brushwood is heaped up round about them and the whole is set on fire. Some of the logs smoulder for weeks —perhaps till the first rains come. Then the ground is rudely dug up with hoes, and the ashes turned in. Cotton-seed is ordinarily mixed with the rice, which is of a quite different variety from that produced in the plains. It is sown broadcast, and the farmer has thereafter only to keep down the weeds, but this is not by any means a light task. The crop is ready by October, and furnishes little more than enough to support the family or community. The scanty manure provided by the wood-ashes is not sufficient to last more than two or three years; and when the crop is secured the party proceeds on to a new settlement, there to repeat the same laborious process. A very ingenious device for lightening the toil is resorted to where there is much heavy timber. Beginning at the bottom, they slightly cut the lowest trees on the upper side only, gradually increasing the depth of the notch as they advance up the hill, until at the top of the clearing they cut the trees completely through. These fall on the row immediately below them, and by their weight knock it down; and so the felling process is continued down to the bottom. Occasionally a tangle occurs

2:Scott G-5 (1870's-1909)1910 AP1 Burma (Hill Peoples Europeans) AP1
Burmese AP4

where some sturdy tree refuses to fall, and the clearing it away becomes a matter of very considerable danger. This taung-ya system is very wasteful as well as laborious, and annually draws down upon itself the denunciations of the English forest officers. But the hill-tribes who adopt it are too few to support themselves in any other way. They were long ago driven out of the plains by the Burmans, and now cling to their old nomadic life with a degree of obstinacy which Government officials, in a variety of ways, have found is not to be tempted by any tale of the present security and plenty of the low country, or even of the valleys among the hills. Rice, therefore, continues to be produced with the minimum and the maximum of labour; but none of the hill rice ever finds its way out of the country, and seldom even down to the plains.

The rice season, as far as the English merchant is concerned, commences in January and ends about May; but though this is pre-eminently the "busy season," there are purchases made in greater or less quantities all the year round. The relations between the great English rice firms and the simple jungle cultivators have not always been of a very elevating character, and it can hardly be denied that the fault lies wholly at the door of the foreigner. Missionaries in Burma are wont to mourn that their teachings are often rendered wholly nugatory by the want of scruple, and it might almost be said of honour, displayed by the great Rangoon rice firms. The good padres teach their proselytes that Christians are all honest and truthful. The ingenuous lads enter as clerks in a rice-mill and discover that Englishmen scarcely differ from the "poor heathen," except in being more lordly in the way of doing the thing.

Years ago, when there were not nearly so many mills as there are now, and not a quarter so many ships in the harbour during the rice season, things went on pretty equably. One day one firm would give a rupee or so more per hundred baskets, and the next day it would be another. But soon the mills began to increase in number and more ships came, and it was harder to get paddy. Then rival firms began to bid against each other. There was demurrage before their eyes, and it was terribly expensive work keeping the mill

during the months of Waso and Wagaung. Mangoes can be preserved in the form of pickle or of salted mangoes. In Rangoon, ripe mangoes can be obtained all year round since some are laid by in cold storage, but they are very expensive out of season and cost about three rupees each. 262 [369] [251]

MAYAN THEE AHME (ripe marians) appear during the months of Tabaung, Tagu, Kason and Nayon. In Nayon month the output of marian fruit lessens.

Consumption of NGAPI YE: NGAPI YE is available all the year round. In Pantanaw it was eaten every day for both meals of the day. Ten ticals of NGAPI YE lasted the family four meals. In camp it is consumed only occasionally - about four days in the month. Two and one half ticals are taken with each meal and this would add up to twenty ticals for the eight meals in the month.

Consumption of firewood: If all the firewood needed by the family in camp had to be bought, the consumption of firewood per month in the camp would amount to 200 pieces of Kanazoe wood at the rate of Rs. 4/- per 100 pieces. About 3 months ago they found that they did not need to buy any firewood at all as they could gather a sufficient amount of brushwood to serve in its place; but now none of the members of the family remain free to go in search of brushwood and all their requirements have to be bought. 313●

In Pantanaw, their needs of firewood for cooking were filled by three huge Koko trees which they owned. This was also supplemented by the wood that they had to buy for processing the fish. Three tons of firewood would last 1½ or 2 months, costing Rs. 25/- per ton. The firewood for cooking did not cost anything beyond the two or three rupees that had to be paid to the person who cut down the branches.

Consumption of PAUK PAUK PYIN: This is not found in Rangoon at all. In Pantanaw it was eaten at charities, particularly the Waso month charity. Each member of the family ate about 10 ticals each, and 40 or 50 ticals were needed for all. This was eaten only once a year and even then not necessarily every year. 262 [796]

KAYE KAYAR is eaten in camp only about once a year. This is the Rangoon equivalent of PAUK PAUK PYIN. KAYE KAYAR is different in having no oil in it. One anna's worth weighs five ticals and six or seven people eat an anna's worth each at one eating.

In Pantanaw bread was sometimes eaten at SHIN PYUS (novitiation ceremonies). MON-HIN-GA was eaten at the beginning of the Buddhist Lent, when PAUK PAUK PHIN, MON KYAR YOK and MON SEIN BAUNG were also eaten sometimes. KAUK HNYIN BAUNG was eaten at this time and also at U Myaing's daughter's naming ceremony. GYIN THOKE, LAPHET and tea were served during novitiation ceremonies, and Mandalay HTO MON was eaten during the naming ceremony. Sweet tea was also served during marriage ceremonies. Rice and curries were eaten at some of the bigger festivls. KAUK HNYIN was prepared for almost every ceremony or festival. [796]

In Rangoon, U Myaing had MON HIN GA and sweet tea on the full moon of Tasaungmon from a charity in the THAYET-TAW KYAUNG-TAIK. He also had some MON-HIN-GA not long ago at a head washing ceremony for a child. There are no charities held in the camp enclosure. [796]

25: Ferrars E-5 (ca. 1890) 1901 AP1 Burma
Burmese AP4

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435

10. CLEANING RICE WITH THE HAND-MILL.

in every town. A basket (*din*, bushel) of cleaned rice (*san*) costs three to four rupees, and lasts a man about a month. The loss of volume in cleaning is about twenty-five per cent., and the cost of the unhusked grain about one-third of that of rice. For cakes and sweets, rice is ground with water in the Indian stone hand-mill. After first soaking, it is passed through the mill repeatedly until it forms a creamy fluid, which is strained and used while fresh. Wheaten bread is a novelty.

[262]

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The houses in Burma are mostly built of bamboo. The giant bamboo (*wabó*), a denizen of the evergreen hills, is cultivated in the plains for house-posts and masts and side-buoys of boats. Its culms attain a height of eighty feet and a girth at the butt of two feet. Every bamboo jungle supplies the rest of the material for the house. No tools are needed for bamboo work, but the universal *dá*—a sabre, trimmer, chopper, according to its proportions (No. 231). With the *dá* the bamboos are hewn, split open and slit into withes (*hnt*) for lashing. Thin-walled bamboos are opened out into broad planks for the walls of the houses (*tayán*). Stout thick-walled bamboos are shaped into narrow planks for flooring, or the floor is laid of round bamboos laced down at intervals. Loose planks of wood are becoming general for floors, even in houses built of bamboo (p. 119). Every Burman can handle the *dá*, but not so expertly as the hill people. The house-posts, floor-girders, and principal frames are frequently of timber, and outlast several relays of the bamboo-work, which decays in a few seasons. The inducement to keep a material clean and neat which has soon to be replaced is not great, and engenders negligent habits. In the better houses, bamboo is only used for the walling and the roof rafters.

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[412]

[243]

131. WINNOWING GRAIN IN THE WIND.

25: Ferrars E-5 (ca. 1890) 1901 APl Burma
Burmese AP4

122. CUTTING GIANT BAMBOO (WABO).

and the roof-rafters. Straight trees are selected for posts, and are either left plain, or the sapwood is dressed off, or they are dubbed octagonal; the timbers are rough-hewn with the *dâ*. Posts of hard and durable wood (*pyinkadô*) are also squared, and the scantlings for the timbers cut with the saw. A special significance attaches to the posts of the house. It is thought unlucky if birds alight on them before they are roofed in. Sham bows and arrows are set at the heads of the posts to scare them (*lugemmana*). Besides the miniature bow-and-arrow stuck in bazár goods to scare crows, this is the only form in which the long-bow and arrow survive in Burma; in practice, arrows are used with a crossbow (No. 204) and pellets with the plain bow (*le*), and that not extensively. Another curious custom is the one of laying a piece of cloth between the head of the post and the wall-plate as a propitiation to the *nat* of the tree (p. 187). Before the large posts of temples are reared, their heads are hung with offerings, which the workpeople afterwards share among themselves. The front bays of the house have a floor only a few feet off the ground (*kyanndaing*)—unless where the flood-levels require it to be higher—making a verandah, the common or unenclosed portion of the house, free to strangers. The back bays have a floor about four cubits off the ground or above the lower floor. A bamboo or wooden ladder connects the floors. The upper floor is enclosed all round, and has one or two bays partitioned off. A pent-roof covers the cooking-place and grain-bin, where the rice-pounders and implements are stored as well; or else there is a shed for

123. REARING THE POSTS OF THE WUT.

25; Ferrars E-5 (ca. 1890) 1901 AP1 Burma
Burmese AP4

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242. DEFILE BELOW THE GREAT RAPID OF THE SALWEEN.

which it is hammered is obtained from bamboo-fibre.

In Burma the idea still prevails that gold may be compounded from baser metals or the quantity of fine gold augmented by their means. Alchemists are found in every town, who experiment in the hope of success or practise on dupes who furnish the gold that is to be increased. A furnace and blast is the chief appliance of the laboratory, and the potent agent relied upon is mercury. Ingredients of every sort, animal, vegetable and mineral, are experimented with under the influence of charms and cabalistic forms, whence the name for alchemy, *ekkaya-tò*. The business is under the ban of religion, not alone as being actuated by greed (*lawba*, p. 44), but because primitive Buddhism eschews every thing mystical and occult. The operations are carried on at night for secrecy. Reputed adepts are found among the class of recluses called *yathé*, who from their life in the wilds are supposed to penetrate the arcana of nature.

[137]

243. TEAK-TREE OUT OF LEAF (MARCH).

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322

Wood-work was greatly restricted until better tools were imported. Planks and scantlings used to be laboriously prepared for boat-building and for palaces, religious edifices, and the houses of the great. Excepting the inner gates of the masonry temples, wood-work over a century old is scarce. But before the Burmans possessed the means of turning their timber to account for themselves, the country had become noted for its stock of teak. Burma possesses many valuable woods, but the pre-eminence of teak is such that for general purposes *timber* had come to mean always *teak* timber. Teak possesses the advantages

25; Ferrars E-5 (ca. 1890) 1901 APl Burma
Burmese AP4

344. MIXED HILL-CROP OF RICE, SESAMUM, AND TEAK, IN SEPTEMBER (p. 149).

of being nearly all heart-wood, having considerable strength, with moderate hardness and weight, working easily with axe, saw and chisel, taking nails, and above all, not rusting nails or iron in contact with it. It has a serviceable brown colour and an odour by which it may always be distinguished, due to the presence of an oil which repels the attacks of insects, notably of the termites, and which protects it from decay. Teak is in short the prince of eastern woods. At the end of the eighteenth century, teak was already being worked out of the Burma forests and brought to port, where the foreign shippers had established saw-pits for squaring the logs. The steel pit-saws found their way into trade and gave an impetus to wood architecture, of which the ecclesiastical buildings of Burma are the chief examples. Timber-traders started building teak ships in Burma, employing Chinese carpenters. This business has been abandoned, but lighters are still built.

345. FLUE OF FACTORY DISUSED TEN YEARS.

The teak-tree (*tectona grandis*) occurs in patches of the dry mixed forest, the forest namely of which the principal element is a deciduous bamboo, with timber trees of fifty or more deciduous species scattered through it. Of these species about half a dozen produce serviceable timber. The bamboo-stools send up their culms to heights of forty and sixty feet in the course of a few weeks, before their branchlets and leaves appear. By means of this the bamboo has the advantage over all other vegetation. The seedlings of trees have to struggle up under its cover. At intervals of twenty to thirty years the bamboo species flower, to grow again from seed. Then is

25; Ferrars E-5 (ca. 1890) 1901 APl Burma
Burmese AP4

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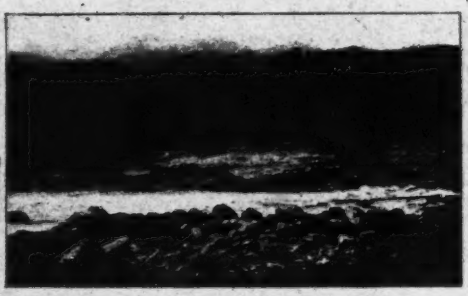

247. THE GREAT RAPID OF THE SALWEEN (HATJI).

the chance for the timber-trees. A seeding teak-tree may originate a clump of young teak on the natural clearing, just as happens on cultivation clearings (*taungya*, p. 149). Sometimes a mixture of trees in its turn suppresses the young bamboo. So far from forming vegetable mould on the surface, the great crisp leaves of teak (No. 355) provide rich fuel to the forest fires which burn every season and kill the struggling seedlings of trees. The bark of teak has about an eighth of an inch of a loose corky layer which protects the quick against scorching. The bare soil is exposed to severe erosion by rain. It is only where contributions of a better kind than its own are made to the soil that teak flourishes. Its occurrence is limited to patches of the dry forest zone, in which drainage and other factors not yet understood concur in a favourable way. Teak plantations are easy to start and the young trees are very promising. But they begin to languish and to seed prematurely when planted pure, as they mostly are. Teak attains its full height early, before commencing to flower, which it does in its axes of growth. Where the bloom drops off, no further straight length is grown. The stock of teak is in the main mature and over-mature. It is the savings which the mixed forest has accumulated of this imperishable wood, and is not supported by relays of younger generations in due proportion. Much even of the apparently rising stock is exhausted in vigour and is stationary; a tree crippled in vigour may never attain a girth of five feet. The blanks made by working out the teak are naturally filled up by the more numerous competing species. Teak seedlings in open situations grow twenty to thirty feet

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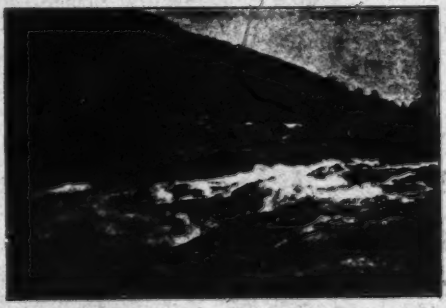

248. VORTEX OF THE GREAT RAPID.

25: Ferrars E-5 (ca. 1890) 1901 APl Burma
Burmese AP4

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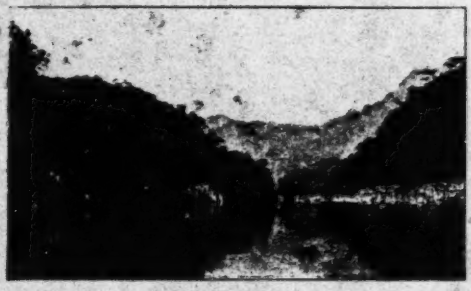

249. DEFILE BELOW THE LAST RAPID OF THE SALWEEN.

high in a few seasons and get clear of the forest fires. But those struggling under cover are cut back by fire every year. Trees may attain a height of sixty feet in twenty years. A vigorous tree attains a marketable size of seven to eight feet girth at breast height in sixty to eighty years; trees of ten to twelve feet girth are common on good sites. The boles of the full-grown trees range from twenty-five to seventy-five feet and are mostly straight and round.

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The character of the dry mixed forest is determined by the prevailing bamboo, one of seven or eight species. The mixed forest constitutes a vegetal zone skirting the *kwin*, chiefly on sandstone slopes and hills, up to one thousand feet elevation. The timber tree most abundantly interspersed in the bamboo is *pyinkadó*, an "iron-wood" suitable for house-posts, sleepers, and rough work. The most valuable timber tree after teak, but even more sparingly distributed, is *padauk*, an excellent wood for carriage-building; it has a rich red colour. In the driest type of mixed forest the cutch-tree is common (*shá*). The sandstone soil is interrupted by great stretches of "laterite," noted for its barrenness. It is not devoid of vegetation, but the forest which occupies these areas is open and stunted, with frequent blanks. It is called *indaing* from the prevailing *in*, the only gregarious forest tree of Burma, excepting the trees of the littoral and the pine of the high altitudes. This forest contains several congeners of the *sál* of India. Below the forests of the sandstone and laterite comes the *kwin*, with its prevailing *kaing*, interspersed with *leppan* and *pauk* trees. In the water-logged spots, and on the fringes of permanent lagoons, is the

250. MANGROVE JUNGLE.

25; Ferrars E-5 (ca. 1890) 1901 APl Burma
Burmese AP4

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282. RIPARIAN FOREST.

paludal forest (*yagaing taw*) and marshland (*hwet*). Towards the sea, the river-sides of the *kwin* are bordered with *lamú* and *pinlè-kanazò*, the evergreen monotony of which is only broken by the *dani* (*Nipa*), a palm with immense fronds somewhat like the cocoanut, but not developing a stem. The mud-banks of the tidal estuaries are overgrown with mangrove (*byú*). Above the brackish water, the riparian tree is the willow (*mòmakò*), the tree that "denies its homage to the rain." For when by grace of heaven trees put forth their leaves, the willow sheds its own, and in the drought when all the rest are bare, the saucy tree breaks into leaf. Between the willow at the water's edge and the *kwin* or the hill-slope, as the case may be, comes a narrow band of riparian forest with a frequent undergrowth of cane-brake. This is the habitat of several useful timber trees, *thingàn*, *pyinma*, *thitkkà*, *ka-nyin* (wood-oil). These trees and their associates follow the banks of the small feeders into the hill-regions, or form an inter-mixture in the forest of evergreen trees which occupies the soles of ravines, abounding in lianas and epiphytic plants, with an undergrowth of *musaceæ*. Above this forest or, in other cases, the *kwin*, comes the zone of dry forest already described.

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313

Above the dry forest zone, but also at lower levels where the soil is volcanic, comes the hill evergreen forest (No. 256). Here trees are in the ascendant, except for occasional patches of giant bamboo (Nos. 122, 362). The trees are of innumerable species, of spongy and worthless timber, with a sprinkling of *ka-nyin*, *kaung-kmù*, *taung-pein-né*, and *thingàn*, and in the extreme South, *gangaw*. The undergrowth consists of young trees, with palms, pandanuses and

283. UPPER WATERS OF RIVER (JULY).

25: Ferrars E-5 (ca. 1890) 1901 AP1 Burma
Burmese AP4

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254. FOREST STREAM IN THE PINE REGION.

other large endogenous plants. The shade is dense, so that grasses do not grow, but owing to the absence of forest fires, there is mould on the surface. The trees are of great height, commonly one hundred feet clear bole (No. 362), and often are of enormous girth. The natural rotation is short owing to early decay, and the bulk of the trees are slender. Above this "tropical" evergreen forest, as it is named by its explorer, Kurz, at the altitude of three to four thousand feet, according to latitude, comes a zone of stunted evergreen trees, among which oak species are conspicuous. Mulberry, raspberry, briar, and other shrubs of the temperate zone grow wild, and a decided change of climate is experienced. One to several thousand feet above this zone is the region of the pine (*pinus khasya, tinyú*, No. 340), up to ten thousand feet, the greatest altitude of the Burma hills. The pine forest has an undergrowth of saccharum. When this burns, the fire runs up the resinous stems, and kills extensive areas of forest. The timber is good and attains great size, but is too unfavourably situated for transport. The forest types are not in all cases sharply defined, but merge into each other.

313

The specific gravity of green teak is about 1·2, and of dry teak about 0·8. The best way to get it dry for floating is to ring or "girdle" the trees. The bark and shallow sap-wood are cut through with the axe; the leaves wither and the tree dies. In two or three seasons the timber is light enough to float, and meanwhile it is not exposed to the danger of being burned or overseen in the undergrowth as it might be if felled in order to season. The tree is eventually felled at the level of the girdle, but if buttressed or un-

255. GIRDLING THE TREE.

25: Ferrars E-5 (ca. 1890) 1901 APl Burma
Burmese AP4

[opp. p. 116]

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[To face p. 116.

258. REAPED LOGS ON THE SALWEEN RIVER (MARCH).

25: Ferrars E-5 (ca. 1890) 1901 AP1 Burma
Burmese AP4

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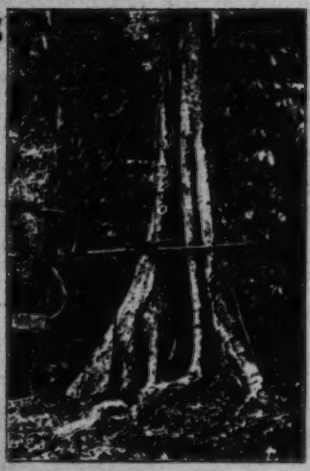

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227. FELLING THE TREE.

sound is felled much higher. As timber gets scarce, the woodmen are glad to work out the stem-pieces left in this way, maybe fifty years before. If felled green, the teak throws out powerful suckers from the stool which grow six to ten feet in a season and get clear of the forest fires. In sixty years they produce marketable timber. After felling, the trees are cut into suitable logs for dragging. The latter is the most arduous part of the business. From the stump to the nearest floating-stream may be a mile or two of heavy country. The teak to be worked out of the forests is too sparsely distributed for roads or machinery to pay. Elephant power is the most valuable adjunct for the work. The rainy season, when brooks and streams are full, the ground moist and slippery, and the weather cool for the animals to work, is the time chosen for dragging. The corners of the log are cut away at one end, and a drag-hole made for the elephant chain and the subsequent raft-ties, at each end. The dragging-paths get worn into troughs in which water lodges and facilitates the work. Every brook on the way is utilized, for though too scanty to float the log, it lightens the labour. The elephants are worked a few hours in the morning and a few in the evening and turned loose at other times, with the fore-feet hobbled, to forage for themselves. The Karéns keep their elephants in excellent condition; such casualties as they have are due to anthrax, which spreads from the buffaloes, and to other epidemics. In the timber-yards at the seaports, on the other hand, in spite of grain and green feeding and great care, the animals are worn out in a few years. Elephants are heavy enough for

228. DRAGGING THE LOG.

25: Ferrars E-5 (ca. 1890) 1901 APl Burma
Burmese AP4

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279. PUSHING THE LOGS OFF THE SHOALS (AUNG).

timber-work at eighteen years, and are at their prime from thirty to sixty. Females and tuskless males (*haing*) are worth one thousand to two thousand rupees; tuskers from one thousand five hundred to four thousand. Tuskers are of use for manœuvring the logs in the shallow streams and getting them off shoals. The logs are not launched into the main stream or river until the last freshets of the season have gone down, for fear of the timber becoming unmanageable. The logs are allowed to drift singly as far as the deep water, where they are stopped by a boom, for sorting and rafting to port. On the Irawadi and Sittaung, the main water-course is available for rafting, but on the Salween, only the last sixty miles below the rapids. The Salween tears its rugged course through the limestone mountains which occupy the centre of the Eastern Peninsula, traversing some ten degrees of latitude and tapping teak localities on a good part of its way. Deep tranquil stretches alternate with furious rapids, the violence of which may be judged from the fact that teak logs are often shivered in splinters.

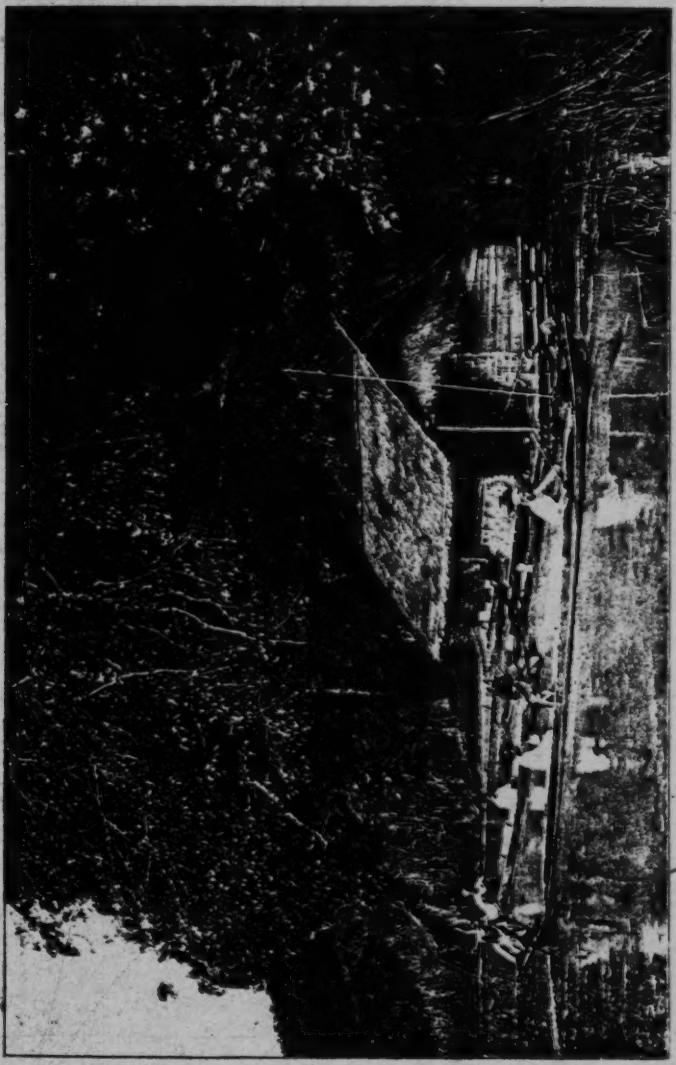
313
133

The foresters stamp the timber all over with their property-marks. They have to bide their time until the logs reach the rope-station or boom (*kyoldn*) and can be sorted. In the south-west monsoon the logs have to be salved one by one by men in canoes. The deep-water raft consists of five to ten tiers of as many logs each, securely bound with rattan by the drag-holes to cross-poles, and linked with the same material. The raft is manned by four or five men, and is often several weeks on its journey. It may not have to bring up until it reaches tidal waters, when it is easily moored. But where the raft has to be stopped against the full force of a three to five knot

280. LAUNCHING HEAPED LOGS.

25; Ferrars E-5 (ca. 1890) 1901 AP1 Burma
Burmese AP4

[opp. p. 118]



261 TIMBER-SALVER'S HUT.

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313
242

25: Ferrars E-5 (ca. 1890) 1901 APl Burma
Burmese AP4

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133

382. ROPE-STATION ON THE SALWEEN (KYODAN).

current, a remarkable device is employed. Two ten-foot handspikes, with a shoulder two feet above the point, have mooring-rattans from each end of the raft, one hundred feet long and an inch thick, bent on to them. One of these is sent ashore from the forward end of the raft and worked like a plough in the bank, going deeper as the raft slews round and the tension increases, and so stopping its way by degrees. If the first attempt fails a second is made from the other end of the raft, which is then the forward one. Arrived in port the logs are dragged up the mud-banks by elephants. But when the path is blocked, a powerful elephant sometimes carries a log bodily. The whole of the [463] operations of bringing the timber to market are combined by a timber-broker (forester, *thiggaung*).

322
313
413
[197]
322
341
[563]

Teak cuts readily, though it blunts the tools very soon. There is little waste. Sawn planks are displacing bamboo for the better-class houses. Sawyers earn from one-half to one rupee a day. The indigenous carpenter's tools were a small adze (*pègôt*), chisels and gouges (*sauk*), awls (*lun*), and a rough saw (*khwa*), besides *dâ* and axe (*paussein*). The Burman adopted the Chinese plane (*ywè-kaw*, "selecting-shave") with the Chinese straddle bench. The English carpenter's rule is also general. When the impulse to good house-building was given by the production of cheap planks, the immigrants from China got the whole of the work. The Burmans have begun to oust them from the heavy carpentering and from the joinery as well. Ordinary Burman carpenters earn ¾ rupee a day, the better workmen 1 to 1¼ rupees a day, compared with the Chinaman's 1½ rupees. The wood-work is left

383. BINDING THE LOGS INTO RAFTS.

25; Ferrars E-5 (ca. 1890) 1901 APl Burma
Burmese AP4

322
341
[313]
322
413

264. TIMBER-RAFT.

plain or is oiled with crude petroleum. A wooden house of the modern Burman pattern costs from three hundred rupees upwards; a bamboo house only twenty to sixty.

The Burman turning-lathe is of the usual primitive type; two poppets sliding in a bed, with centres to hold the work, round which a cord passes from the simple treadle-bar to a springy lath or bamboo overhead. But of late, mandril-lathes have been constructed after models in the steam-mill workshops (No. 187). Mechanical construction has great attractions for the Burman, and is stimulated by the high wages of labour. The foremen sawyers at the steam-mills are Burmans, the other hands natives of India. Menders of clocks and sewing-machines are in all the towns. An engine-erecter, who had set up machinery in most countries of Europe and Asia, said he had nowhere met the same natural aptitude for handling machinery as in Burma (*cf.* p. 10).

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The floral wood-carving of Burma is remarkable for its freedom and spontaneity. Rich as the floral tracery is, the animal grotesques are laboured and deficient in fancy. The carving is done in teak-wood when it is meant for fixtures; otherwise, *yamané* is preferred. The tools employed are chisel, gouge, and mallet. The design is traced on the wood with charcoal, gouged out in the rough and finished with sharp fine tools, using the mallet for every stroke. Teak-wood and *yamané* have a coarse grain, in which fine detail cannot be rendered. Small and delicately elaborated figures are carved in sandal-wood and also in ivory. Whole tusks are carved over with figures of the Buddha and are dedicated in the *kyaungs*. In some of these the figures are modelled in a single piece under an

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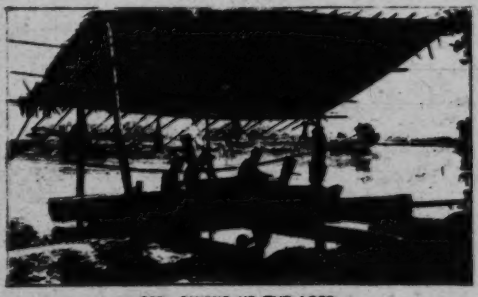
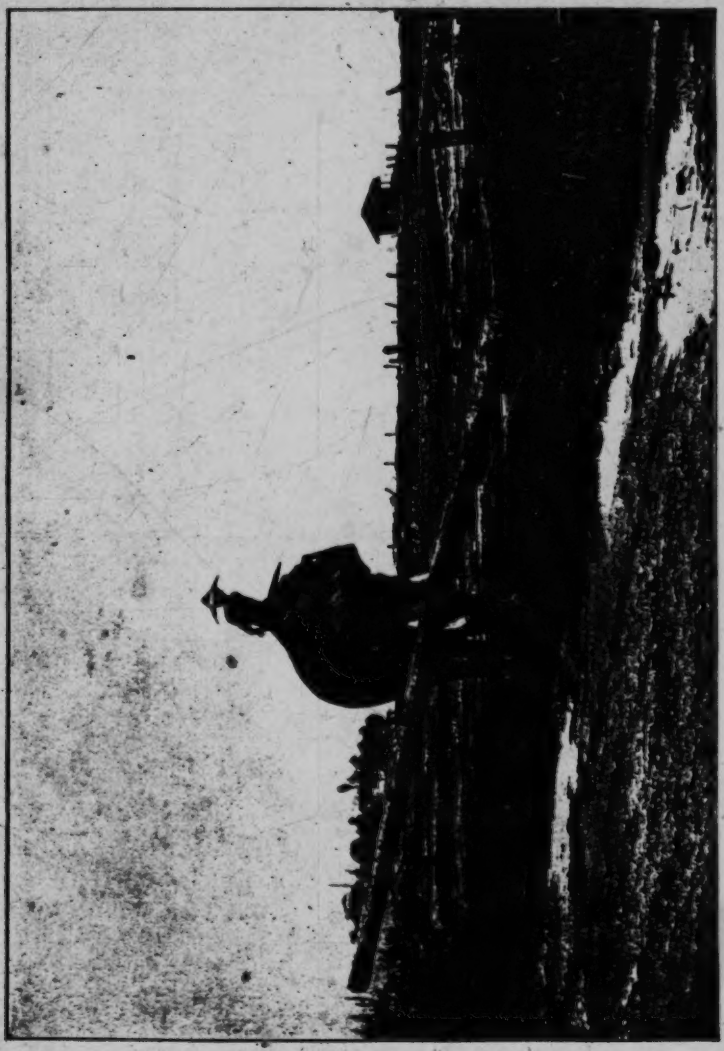


265. SAWING UP THE LOGS.

25: Ferrars E-5 (ca. 1890) 1901 AP1 Burma
Burmese AP4

[opp. P. 120]



[To face p. 120.

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265. SORTING LOGS AT THE SEA-PORT.